

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
31 March 2005 (31.03.2005)

PCT

(10) International Publication Number
WO 2005/028632 A2

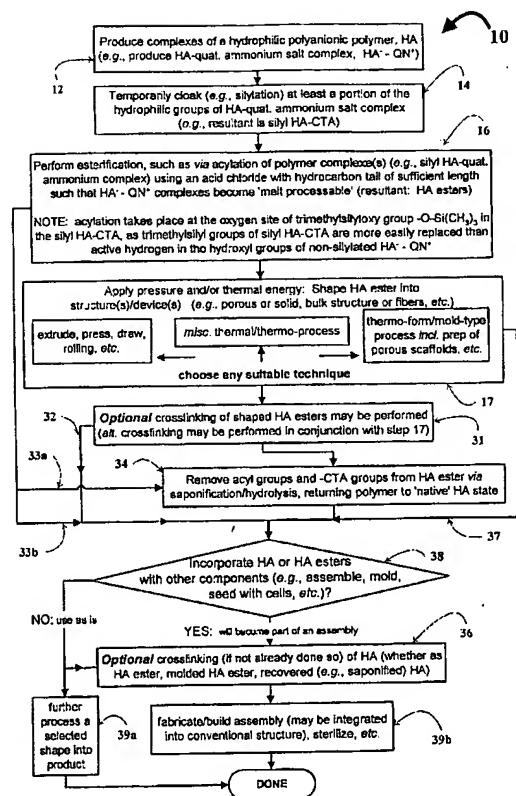
- (51) International Patent Classification⁷: C12N (71) Applicants and
- (21) International Application Number: PCT/US2004/030666 (72) Inventors: JAMES, Susan, P. [US/US]; 46 Redstone Lane, Bellvue, CO 80512 (US). ZHANG, Min [CN/US]; 5644 University Way NE, Apt. #106, Seattle, WA 98105 (US).
- (22) International Filing Date: 20 September 2004 (20.09.2004) (74) Agent: MACHELEDT, Jean, M.; Macheledt Bales & Heidmiller LLP, 501 Skysail Lane, Suite B100, Fort Collins, CO 80525 (US).
- (25) Filing Language: English (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (26) Publication Language: English
- (30) Priority Data: 60/504,392 19 September 2003 (19.09.2003) US
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[Continued on next page]

(54) Title: HYALURONAN (HA) ESTERIFICATION VIA ACYLATION TECHNIQUE FOR MOLDABLE DEVICES



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(57) **Abstract:** A series of novel, melt- or mold-processable HA esters with varying aliphatic chain lengths are synthesized from silyl HA-quaternary (quat.) ammonium salt complex (preferably silyl HA-CTA, a silylated HA complex with cetyltrimethyl ammonium salt). Introduction of aliphatic acyl groups, preferably acid chlorides, to disrupt the strong HA intermolecular bonding, is done *via* acylation. Acylation takes place at the oxygen of the trimethylsilyloxy group -O-Si(CH₃)₃ in the silyl HA-CTA by removal of trimethylsilyl groups therefrom. Optionally, crosslinking may be performed during the shaping/molding of the HA esters into a structure/device, or thereafter, if at all. Native HA can then be regenerated/recovered by saponification/hydrolysis, removing acyl groups, -CH₃(CH₂)₁₀CO, and the cetyltrimethyl ammonium salt groups, -CTA, from HA ester. The structure/device of a preselected shape (*e.g.*, porous or solid, bulk structure or fibers) may become a component of an assembly, a product that is further processed, integrated into another component (*e.g.*, laminated, adhered, assembled, further shaped, chemically-intermixed/intermingled), and so on.



(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

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